

TX-0 COMPUTER
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Paper Tape and Mag Tape Input Routines

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Paper Tape Input Routine:

The standard input routine for binary tapes is that shown on the next page. The block format is:

sto fa	first address
-sto-la	last address
wd 1	data words
.	
.	
wd n	
cks	- sum of all other words in block.

There are two types of start blocks to denote the end of the tape. Immediate start blocks consist of trn starting address, and transfer at once to the address specified. Delayed start blocks consist of add starting address, and will stop on a halt in the input routine, transferring to the starting address when restart is pressed.

The new input routine contains one halt instruction which is reached for both delayed start blocks and checksum errors. Delayed start blocks will display add starting address in the LR, while checksum errors will display sto last address in the LR. Pushing RESTART will transfer to the starting address if stopped on a start block, and will restart the input routine in case of a checksum stop. In the latter case care should be taken that the tape is positioned in the reader at the beginning of a block.

standard input routine

readin

17756 |

b,
r3c
sto a
trn a
cyl+lro+xro-opr-opr
trn d
r3c+lad-opr
alr+xro-opr
c,
r3c
xx
a,
lad
alr
ado a
tix c
r3c+iad-opr
tze b
ldx .-1
d,
hlt
trx 0

xx=hlt

start add b

Mag Tape Input Routine:

This is designed to read binary mag tapes written by Mag Tape Midas during an assembly. The coding is shown on the next page.

To use this routine, the mag tape must be positioned at the beginning of the program on tape. (Usually this involves rewinding the tape after an assembly.) Place the Mag Tape Input Routine in the PETR and hit READ-IN. The routine will be read into core, and immediately start reading the mag tape. When it reaches the start block, it will transfer control at once to the address specified in the case of immediate start blocks, or it will halt with add starting address in the LR, and twice this in the AC in the case of delayed start blocks. Pushing RESTART will transfer to the starting address.

Checksum errors halt with -0 in the AC. When RESTART is pushed, the TAC is checked. If positive, the tape is backspaced and another attempt is made at reading the record in error. If negative, the record in error is left in core as read, and the routine continues reading the next block.

mag tape input routine

readin

17742 |
beg, tac
trn .+2
bsr+1
next, rtb+1
cpyUlacUlxr
trn lve
cyl
trn halt
slr data
cpyUlac
add data
axr
sto cks
loop, cpyUlac
data, sto
add cks
sto cks
ado data
tix loop
cpyUlac
add cks
tze next
clc
hlt
tra beg
halt, hlt
lve, cyl
trn next
trx
cks, 0

start add next